

Work Order ID 68740

Thursday, April 21, 2011 8:16:12 AM



Page 1

Item ID: D350-636-016

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/20/2011 Start Qty: 1.00



Cust Item ID:


Required Date: 4/25/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: 

Date: 4-04-21

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3492

C

D4168

A

IIN-D350-636

H

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-016 CHG 002

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110



Skidtubes

Skidtubes

Skidtubes

0.00

0.00

Memo

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr, section R-R

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting, section R-R

5- Drill fwd step holes using DT9616. Ensure proper positioning. All holes as per dwg D4168 Detail J

6- Drill pilot holes as per Dwg D4168 sheet 5 (D4168-2 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail K)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail K.
SECOND SIDE

8-Drill most FWD wearplate hole using DT9678 locating of 66.54" hole

9-Open up holes of Detail J to 0.297" (total of 2 holes per side) +.201 iplace per side and open holes of detail M section R-R to 0.500" as per dwg D4168

10-Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004

A/R Aluminum Rod batch: ☐

M16577

BB 11/04/26
BTO 11/04/28

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Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

11-Grind welds flush as per Dwg D4168

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

S 4/25/06

AB 11.05.05

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

S 4/25/06

(S)

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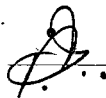
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00		SAD	11-05-06				
150  QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00						11-05-05	

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side)
as per dwg D4168.

2-Open up holes of Detail K to 0.750" (total of 4 holes per side)
as per dwg D4168.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168
(welding instructions on sheet 9) *open holes to section C-G to 0.375*

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐ ☐ ☐ Sikaflex-291batch: 117516exp. date: 12/01/15*11/05/26*

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & QSI004
(welding instructions on sheet 8)

A/R ☐ ☐ ☐ Aluminum Rodbatch: M117456*BB 11/05/31*

9- At section AP-AP drill out x-bolt spacer to 0.404"

BE 11/05/31

10-Grind welds flush as per Dwg D4168

BB 11/05/06

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D4168

12- C'bore section CH-CH

13- Deburr holes

BE 11/07/13

B 11/06/01

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

S 4/06/03

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

S 4/06/03

(Signature)

W/O:		WORK ORDER CHANGES					
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Start Date: 4/20/2011 Start Qty: 1.00

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

190

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1 0 11/06/06

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

2:30
320 °F
3:00

1 0 11/07/11

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

1 0 11-7-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

220



HandFinish

HandFinishing

0.00

Memo

0.00

Hand Finishing

1- Install inserts as per Dwg D4168

1 0 BL 11-7-13.

230



HandFinish

HandFinishing

0.00

Memo

0.00

Hand Finishing

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3" batch: _____

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D4168

SIKA FLEX 241

BATCH: 113516.EXP DATE: 01-15

4-assemble o-ring to plug as per dwg D3492 and apply o-ring lube


A/R 55-o-ring lube batch: 1141895-Coat all exposed fasteners with "LPS Procyon" batch: 114596,

1 BL 11-7-14.

Pro-7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D300-⁶³⁶~~553~~-016 PAR #: _____ Fault Category: landing gear. (skid tube) + inspection NCR: Yes No DQA: ck Date: 11/07/15
 Resolution: Re work Disposition: Re work QA: N/C Closed: 11-07-15

NCR: <u>68740</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>11/7/13</u>	<u>#</u>	<u>Found when installin Run</u> <u>on wear plates that the</u> <u>holes in section cut off CH-CH</u> <u>R.C. missing when tube was</u> <u>being Fracture + @ inspect</u>	<u>11.07.14</u> <u>QS1042</u>	<u>→ Re center hole as per</u> <u>Dwg. + Debar</u> <u>→ touch up Alodine + Powder</u>	<u>BE</u> <u>11/07/13</u> <u>BR</u> <u>11-7-13</u>	<u>11/07/14</u>	<u>11/07/13</u>	<u>11/07/13</u>
				<u>Cont As AS Required</u> <u>Per QS2005</u>			<u>11.07.14</u>	<u>11/07/13</u>

NOTE: Date & initial all entries

Work Order ID 68740

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Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
250 Packaging Packaging	Pick Kit Memo If making a D350-636-216□ pick kit will only requires: 1 X AN3C37A 1 X AN3C34A 1 X AN3C42A 2 X D3493-1	0.00 0.00						11/7/14	
260 QC Quality Control	QC4- 100% Inspect kits for completeness Memo *****ensure antiseize is on AN8C21A bolts*****	0.00 0.00							

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Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	Packaging	0.00							
	Packaging								
	Packaging								
	Memo	0.00							
	Identify and pack for shipping as per PPPD350-636-016								
	Location: _____								
	PPP rev: <u>PM 70738</u>								
280	QC21- Final Inspection - Work Order Release	0.00							
	QC								
	Quality Control								
	Memo	0.00							

PM 70738

u/7/14

MF 11-07-14

W/O:		WORK ORDER CHANGES					
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Picklist Print

Thursday, April 21, 2011 8:16:19 AM

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Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP rev:A 10.09.28 new issue DD verf:EC
11.04.14 ecn11-553 DD verf:EC


IPP Rev:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3490-1		Manufactured	No			160	Each	93.0000	4	4			
													
Cross Bolt Spacer													


Location Loc Qty Loc Code

LG	91	
67773	31	
68105	60	
LG001	2	
62450	2	

D3490-3		Manufactured	No			160	Each	66.0000	4	4			
													
Cross Bolt Spacer													

Location Loc Qty Loc Code

LG	26	
68106	26	
LG001	40	
67774	40	

AN3C34A		Purchased	No			230	Each	13.0000	1	1			
													
BOLT													

Location Loc Qty Loc Code

ST353	13	
116003	13	

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Start Qty: 1.00

Required Qty: 1.00

AN3C36A

Purchased

No

230

Each

181.0000

4

4



BOLT



BR 11-7-14.

Location

Loc Qty

Loc Code

FG

14

101261

4

116590

10

FP-B

47

111925 ✓

47

ST303

20

116590

20

ST353

100

117125

100

AN3C37A

Purchased

No

230

Each

129.0000

1

1



BOLT



M117885

Location

Loc Qty

Loc Code

ST353

29

116874

11

117010

18

ST354

100

117343

100

AN3C42A

Purchased

No

230

Each

52.0000

1

1



BOLT



11/7/14

Location

Loc Qty

Loc Code

ST354

52

106176

52

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Shop Packet Print

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Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

X

D3488-042

Manufactured No

230 Each

12.0000

1

1



Blade Fitting Assembly, RH



BR 11-7-14.

Location

Loc Qty

Loc Code

FP008

12

62003

4

65099

8

D3492-1

Manufactured No

230 Each

0.0000

8

8



Plug

D3492-3

Manufactured No

230 Each

0.0000

8

8



Plug

D3873-1

Manufactured No

230 Each

123.0000

7

7



Bushing



Location

Loc Qty

Loc Code

ST088

123

68247.

62197

12

63314

2

64567

9

64760

100

D4154-041

Manufactured No

230 Each

0.0000

1

1



Wearplate Assembly



69812

1

BR 11-7-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, April 21, 2011 8:16:20 AM

Page 4

Work Order ID: 68740

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

D4170-1 Manufactured No

230 Each

50.0000

4

4



Bushing



BE 11/05/31

Location

Loc Qty

Loc Code

LG

46

61581

5

68225

41

LG002

4

65912

4

D4171-1

Manufactured No

230 Each

8.0000

1

1



Bushing



Location

Loc Qty

Loc Code

ST135

8

65646

8

MS21043-3

Purchased No

230 Each

930.0000

5

4



Nut



Location

Loc Qty

Loc Code

FG

80

103691

80

FP-B

-5

112314

-5

ST301

855

112314

855

4

BR 11-7-14.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

Thursday, April 21, 2011 8:16:20 AM

Page 5

Work Order ID: 68740

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0363R

Purchased

No

230

Each

4,735.000

9

9



Washer



BR 11-7-14.

Location

Loc Qty

Loc Code

ST297

4735

113889

81

114742 ✓

4654

~~7~~ 7

NAS1515H3L

Purchased

No

230

Each

285.0000

4

4



WASHER



BR 11-7-14.

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

245

113362 ✓

245

4

NAS1611-010

Purchased

No

230

Each

266.0000

8

8



O-RING



BR 11-7-14

Location

Loc Qty

Loc Code

FP

80

117460

80

FP-A

186

110915

139

115589 ✓

47

8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, April 21, 2011 8:16:20 AM

Page 6

Work Order ID: 68740

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1611-013

Purchased No

230 Each

176.0000 8 8



O-RING

Location

Loc Qty

Loc Code

FP 117887. 171
117291 131
117460 40
FP-A 5
116582 5

8

BR 11-7-14.

AN960JD816

Purchased No

250 Each

45.0000 2 2



1/2" washer, Alum

1149 D0863 J

Location

Loc Qty

Loc Code

FP-A 45
106043 45

2

BR 11-7-14.

D2744

Manufactured No

110 Each

37.0000 1 1



Cap

Location

Loc Qty

Loc Code

LG002 37
62715 8
65086 29

1

BR 4/14/28

D2600-3-BENT

Manufactured No

110 Each

29.0000 1 1



Extrusion Bent

Location

Loc Qty

Loc Code

LG 29
66874 1
66875 8
68137 10
68138 10

1

BR 4/09/26

Thursday, April 21, 2011 8:16:20 AM

Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

Thursday, April 21, 2011 8:16:20 AM

Page 7

Work Order ID: 68740

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

D2743 Manufactured No

160 Each

123.0000 8 8



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG001

123

67766

123

D2739 Manufactured No

160 Each

14.0000 1 1



350 I Beam

Location

Loc Qty

Loc Code

LG

69538

14

67785

2

68285

6

68286

6

ALS4-1032-225 Purchased No

230 Each

1,113.000 4 4



Insert

Location

Loc Qty

Loc Code

FP-B

40

110768 ✓

40

ST282

1073

110768

1073

AN8C35A Purchased No

230 Each

30.0000 1 1



BOLT

Location

Loc Qty

Loc Code

FP-A

30

115960

7

116874 ✓

23

BE 11/05/36
Q 68948 x8

OK 11/05/26

BR 11-7-14.

BR 11-7-14.

Thursday, April 21, 2011 8:16:21 AM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
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Picklist Print

Thursday, April 21, 2011 8:16:21 AM

Work Order ID: 68740

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

AN6C44A

Purchased No

230 Each

86.0000

4 4



BOLT

Location

Loc Qty

Loc Code

FG

117763

2

103964

2

ST344

84

116874

4

117407

80

MS21083C8

Purchased No

230 Each

91.0000

1 1



NUT

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST303

90

115884

0

117291

40

117423 ✓

50

D3631-1

Manufactured No

230 Each

500.0000

8 8



Washer

Location

Loc Qty

Loc Code

ST072

500

68062 ✓

500

AN960C10L

NAS1149C0332

✓ Purchased

No

230 Each

0.0000

4 4



washer

118306



BR 11-7-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, April 21, 2011 8:16:21 AM

Work Order ID: 68740

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

D2745

Manufactured No

230 Each

13.0000 8 8



Bushing



BR 11-7-14.

Location

Loc Qty

Loc Code

FP-A

69816
67764

13
13

8

X AN960C816L

Purchased No

230 Each

0.0000 1 1



WASHER

AN3C6A



BOLT

NAS 1149C0832R. 114915



BR 11-7-14.

Purchased No

230 Each

224.0000 4 4



BR 11-7-14.

Location

Loc Qty

Loc Code

FP-A

117688
111982

1
1

4

ST351

223

111982

2

116419

71

116549

50

116704

100

MS21043-6

Purchased No

230 Each

527.0000 4 4



BR 11-7-14.

NUT

Location

Loc Qty

Loc Code

FG

103693

20
20

FP-A

112314 ✓

44
44

4

ST301

112314

463

463

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

Thursday, April 21, 2011 8:16:21 AM

Work Order ID: 68740

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

D3493-1

Manufactured No

250 Each

33.0000

2



Washer



368253 11/7/11

Location

Loc Qty

Loc Code

ST062

33

66975

33

MS21083C8

Purchased No

250 Each

91.0000

2



NUT



BR 11-7-14

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST303

90

115884

0

117291

40

117423 ✓

50

AN8C21A

Purchased No

250 Each

28.0000

2



BOLT



BR 11-7-14

Location

Loc Qty

Loc Code

ST345

28

117562

116381

28

D2741

Manufactured No

250 Each

50.0000

1



Blade, 350 Skidtube



11/07/12

Location

Loc Qty

Loc Code

ST466

50

61341

12

63589 ✓

38

yl

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

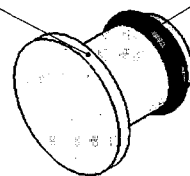
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D3492-XX PLUG
(SEE TABLE)

NAS1611 PLUG
(SEE TABLE)



D3492-XXX PLUG PARTS LIST

QTY -041	QTY -043	QTY -045	QTY -047	QTY -049	QTY -051	QTY -053	PART NUMBER	DESCRIPTION
X							D3492-041	PLUG ASSEMBLY
	X						D3492-043	PLUG ASSEMBLY
		X					D3492-045	PLUG ASSEMBLY
			X				D3492-047	PLUG ASSEMBLY
				X			D3492-049	PLUG ASSEMBLY
					X		D3492-051	PLUG ASSEMBLY
						X	D3492-053	PLUG ASSEMBLY
1							D3492-1	PLUG
	1						D3492-3	PLUG
		1					D3492-5	PLUG
			1				D3492-7	PLUG
				1			D3492-9	PLUG
					1		D3492-11	PLUG
						1	D3492-13	PLUG
		1					NAS1611-005	O-RING
			1				NAS1611-007	O-RING
1							NAS1611-010	O-RING
						1	NAS1611-012	O-RING
	1						NAS1611-013	O-RING
					1		NAS1611-015	O-RING
				1			NAS1611-016	O-RING



NOTES:

1) O-RING: POSSIBLE SUPPLIER P/N: NAS1611-XXX OR PARKER 2-XXX

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 68740

Bd 11-04-21

UNDER REVIEW

OK ASS 08.11.12

DEO ATTACHED

RELEASED
5.11.16

C	ADD -049/-051/-053, CHANGE DRAWING FORMAT	PH	07.10.05
B	ADD -047: UPDATE DIM A FOR -045	PH	06.05.11
A	NEW ISSUE	PH	06.01.04
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	07.10.05		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.
D3492
REV. C
SHEET 1 OF 2
TITLE
PLUG
SCALE
2:1

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WRITTEN PERMISSION FROM DART AEROSPACE LTD.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D3492	TITLE PLUG	REV. C	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3492-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN AJS	CHECKED	MFG. APPR.	APPROVED		DE APPR.		
DATE 08.11.05	DATE 08.11.05	DATE 08.11.05	DATE 08/11/05		DATE 08/11/05		

SHEET 2 MODIFY -13 PLUG AS SHOWN:

IS:

D3492-XX PLUG MACHINING DETAILS

P/N	A	B	C	MATERIAL SPEC
D3492-13	0.750	0.510	0.045	M6061T6R0.750

u/o 68740

WAS:

D3492-XX PLUG MACHINING DETAILS

P/N	A	B	C	MATERIAL SPEC
D3492-13	0.750	0.520	0.045	M6061T6R0.750

RELEASED
08/11/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

u/o 68740

RELEASED
2010-09-15

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149CO363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149CO332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149CO832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- 1) MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- 8) WELD PER DART QSI 004
- 9) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 10) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 11) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

A	NEW ISSUE	SC	10.08.09
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 1 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

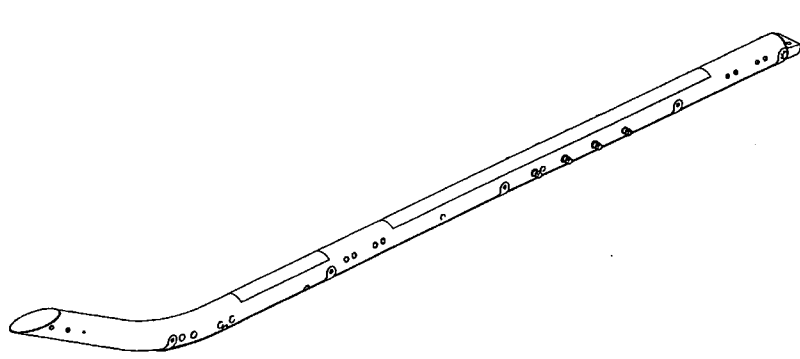
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

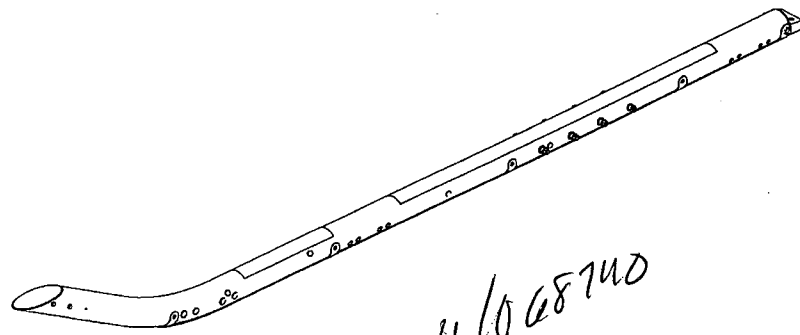
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4168-041 350 SKIDTUBE ASSEMBLY, LH



D4168-042 350 SKIDTUBE ASSEMBLY, RH

u1068740

RELEASED
2010-09-15
JW

DESIGN	SC	DART AEROSPACE USA, INC. PORT HADLOCK, WA DRAWING NO. D4168 TITLE 350 SKIDTUBE ASSEMBLY SCALE NTS <small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>
DRAWN	SC	
CHECKED	<i>[Signature]</i>	
MFG. APPR.	<i>[Signature]</i>	
APPROVED	<i>[Signature]</i>	
DE APPR.	<i>[Signature]</i>	
DATE	10.08.09	

REV. A
SHEET 2 OF 11

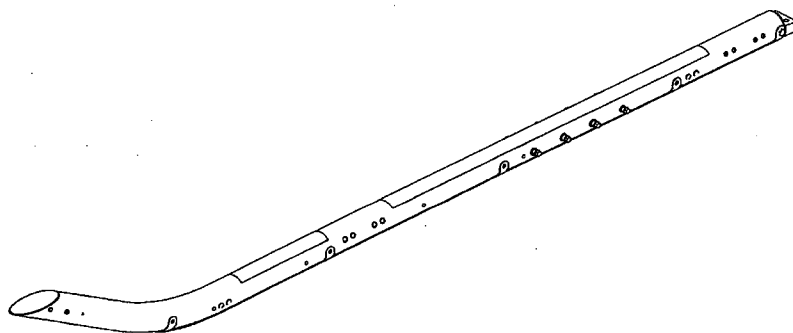
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

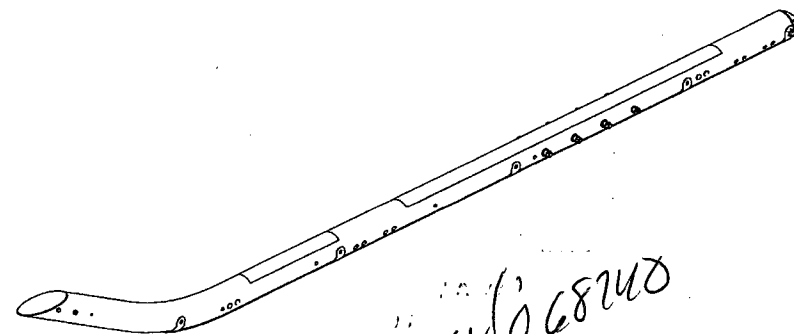
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4168-043 350 SKIDTUBE ASSEMBLY, LH



D4168-044 350 SKIDTUBE ASSEMBLY, RH

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MFG. APPR.		D4168	SHEET 3 OF 11
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DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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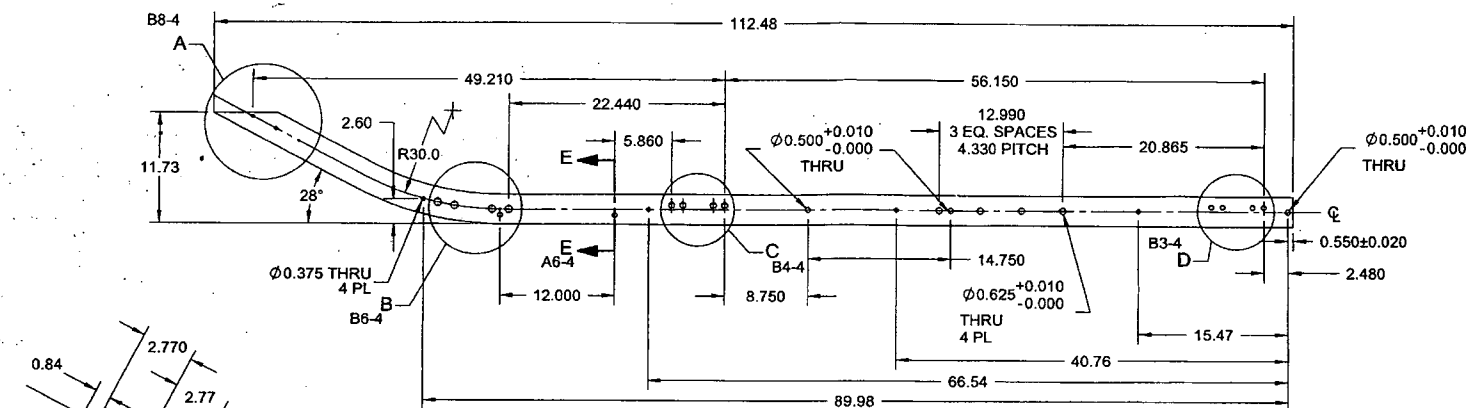
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

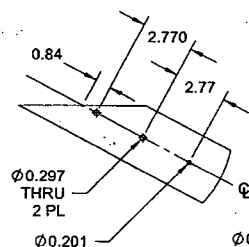
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

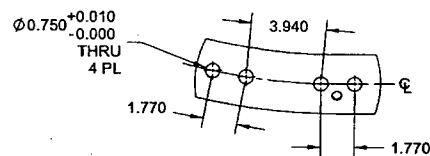
NOTE: Date & initial all entries



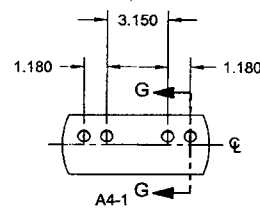
D4168-1 LH SKIDTUBE



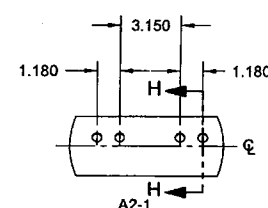
DETAIL A
SCALE 2X



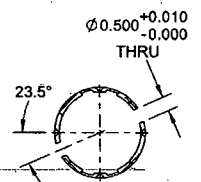
DETAIL B
SCALE 2X



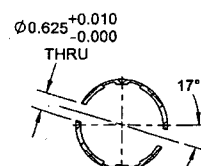
DETAIL C
SCALE 2X



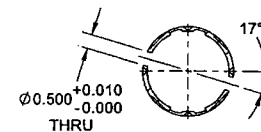
DETAIL D
SCALE 2X



SECTION E-E
SCALE 3X, 2 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

u/b 68728

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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

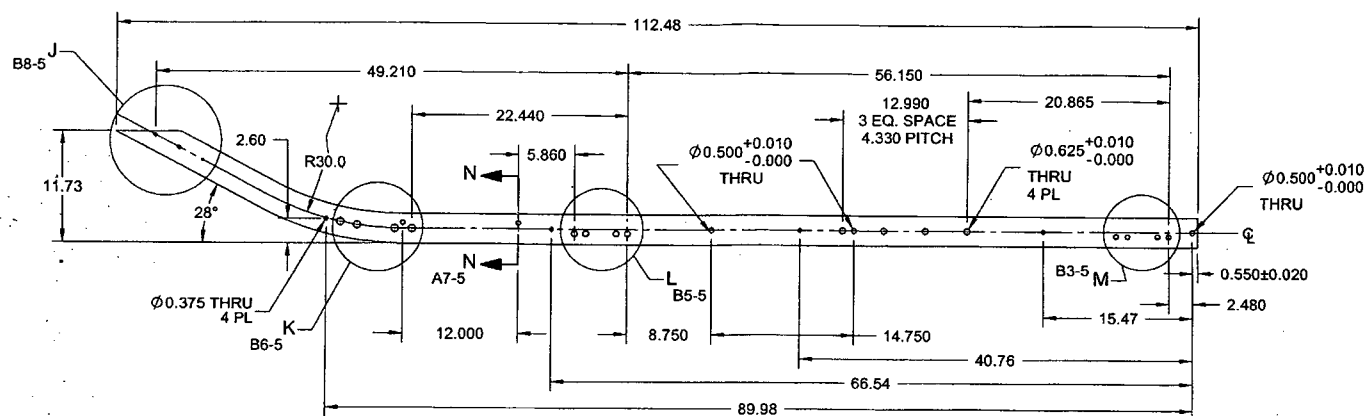
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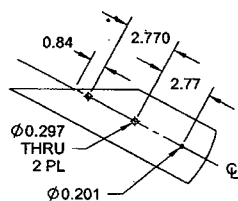
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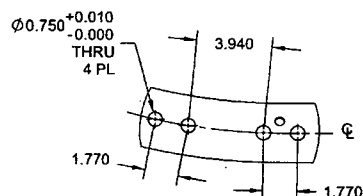


D4168-2 RH SKIDTUBE



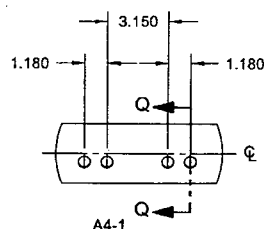
DETAIL J
SCALE 2X

D8-5



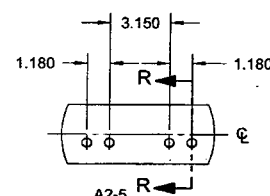
DETAIL K
SCALE 2X

C7-5



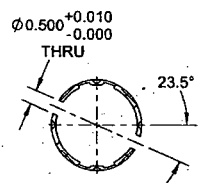
DETAIL L
SCALE 2X

D5-5



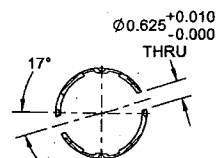
DETAIL M
SCALE 2X

C3-5



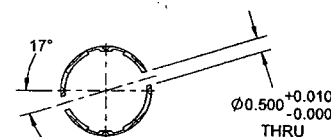
SECTION N-N
SCALE 3X, 2 PL

C6-5



SECTION Q-Q
SCALE 3X, 4 PL

B5-5



SECTION R-R
SCALE 3X, 4 PL

B3-5

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PORT HADLOCK, WA

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REV. A
SHEET 5 OF 11
TITLE 350 SKIDTUBE ASSEMBLY
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

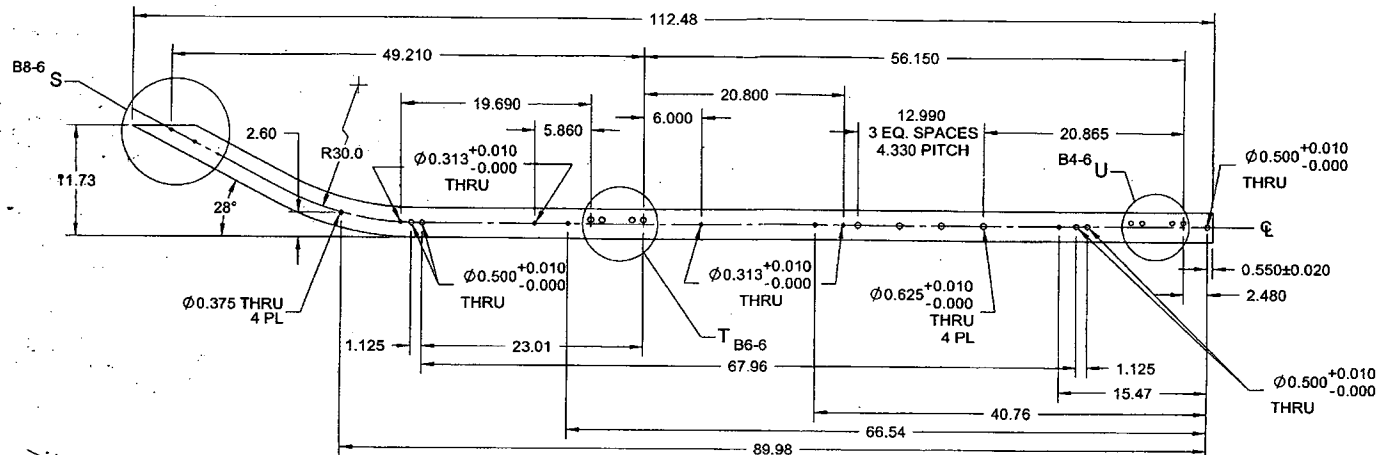
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

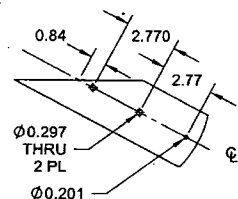
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

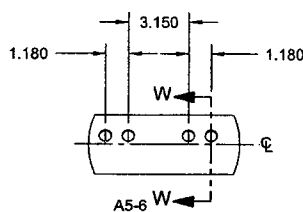
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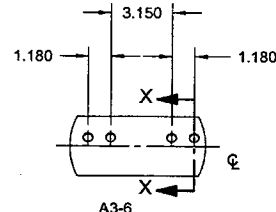
D4168-3 LH SKIDTUBE



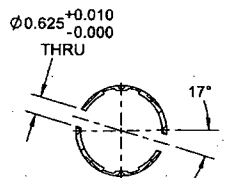
DETAIL S
SCALE 2X
D8-6



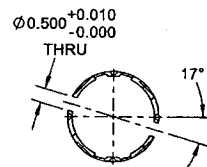
DETAIL T
SCALE 2X
C5-6



DETAIL U
SCALE 2X
D3-6



SECTION W-W
SCALE 3X, 4 PL
B6-6



SECTION X-X
SCALE 3X, 4 PL
B4-6

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8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

D

D

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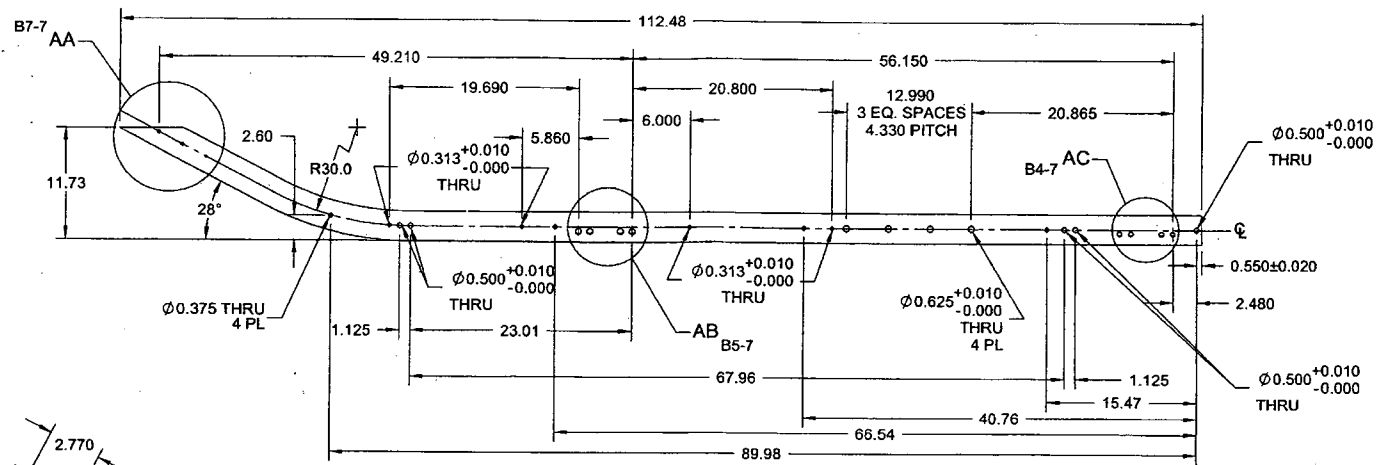
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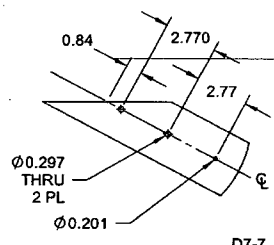
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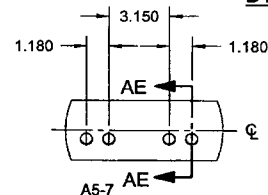
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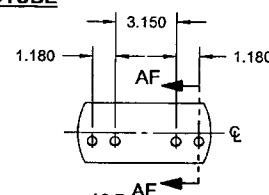
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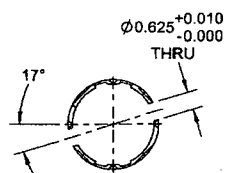
DETAIL AA
SCALE 2X



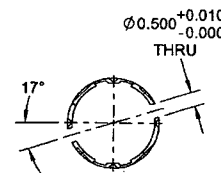
DETAIL AB
SCALE 2X



DETAIL AC
SCALE 2X



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

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8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

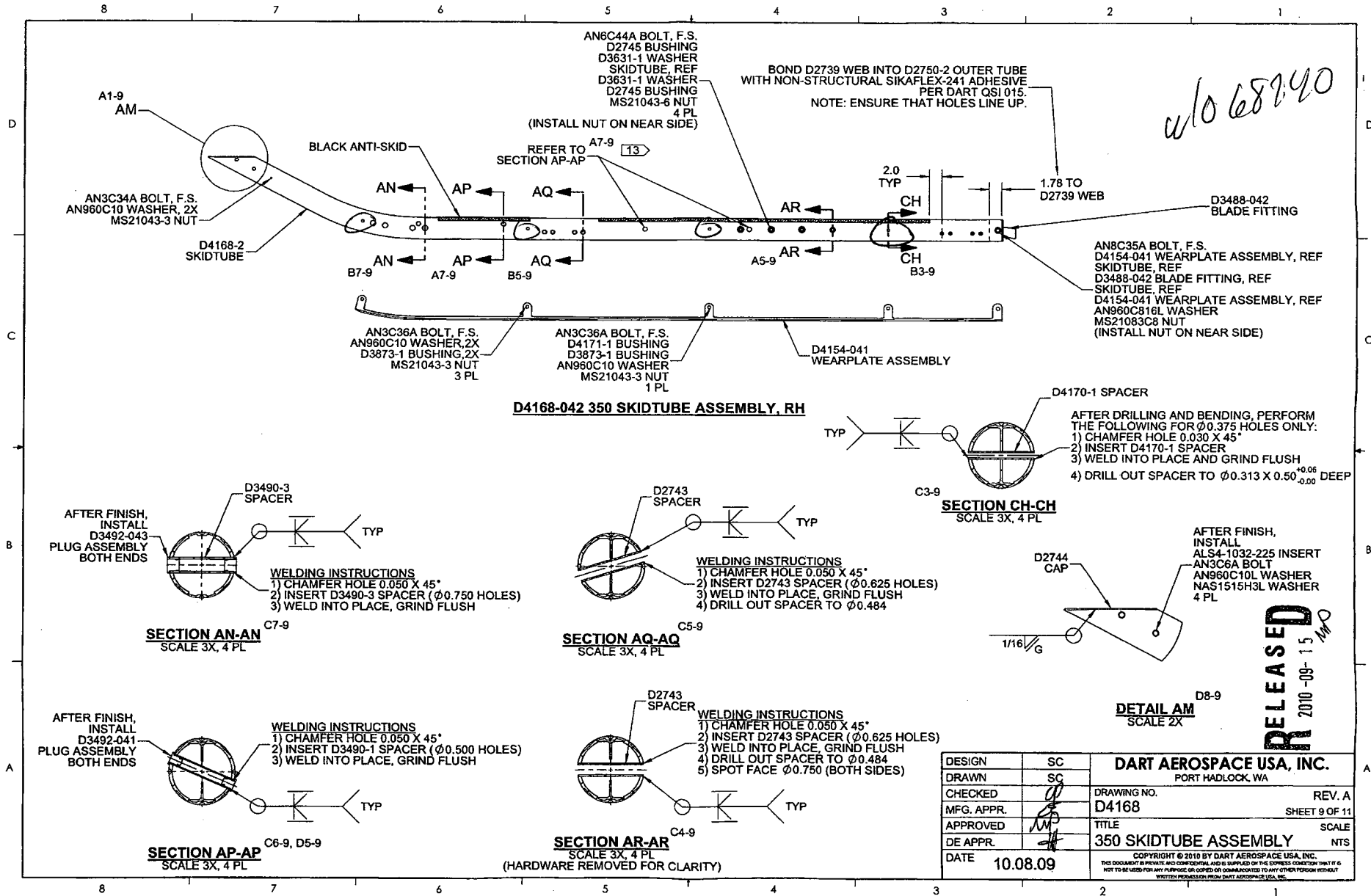
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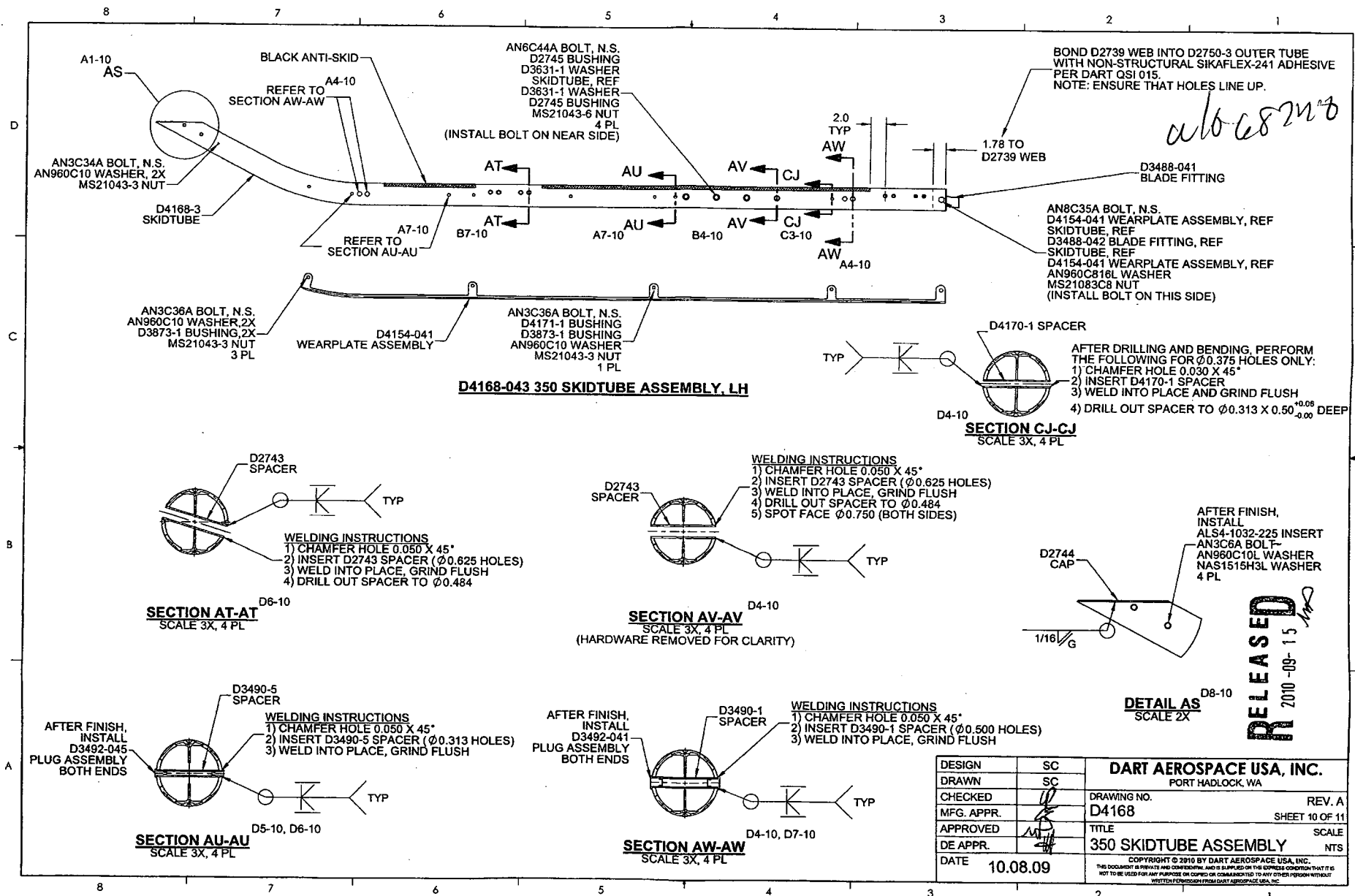
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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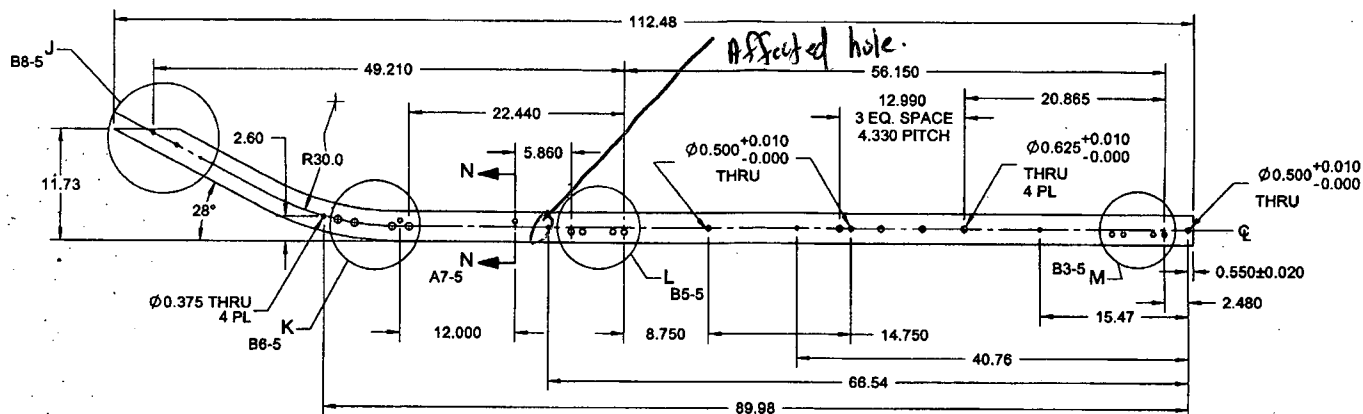
NOTE: Date & initial all entries

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

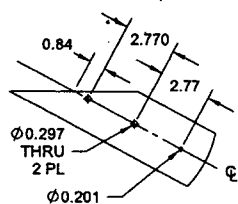
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 Resolution: Review Disposition: Review QA: N/C Closed: Date:

NCR: 68740		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11.05.24		Ø0.375 WEARSHOE HOLE NEXT TO FWD SADDLE WAS DRILLED Ø0.500 R.C. LACK of ATTENTION	CP 11.05.24 PSI 042	INSTALL Ø0.500 O.D. X Ø0.257 I.D. x 3.15 $+0.030$ - 0.000 LONG SPACER. M6061 T6T, M6061 T6R B/N <u>117372</u>	BE 11/05/31	S 11/7/15	CP 11.05.24 PSI 042	S 11/7/15

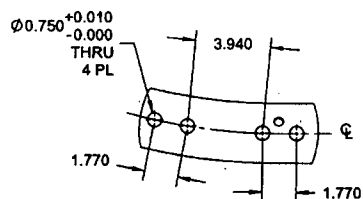
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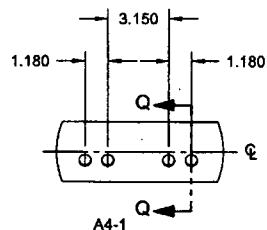
D4168-2 RH SKIDTUBE



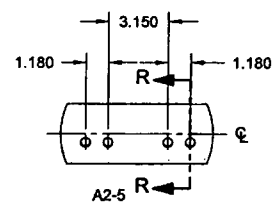
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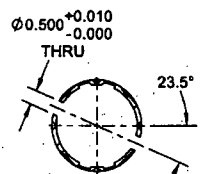
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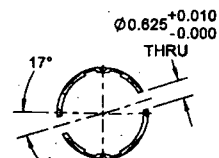
DETAIL L
SCALE 2X



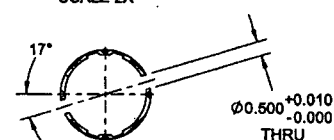
DETAIL M
SCALE 2X



SECTION N-N
SCALE 3X, 2 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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2010-09-15

NO. 253

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliot
Job number: 67621
Part number: D350 636 011
Description: 350
Welding Process: Tig ☒ Mig ☐
Base material: Aluminium
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier Rob Green Date of Test Coupon 11.05.19
Welder Barclay Elliot Date of Test Coupon 11.05.19

The above named individual is qualified in accordance with AWS D17.1.2001 to weld